

STANDARD FORM NO. 64

CONFIDENTIAL*Office Memorandum* • UNITED STATES GOVERNMENT

TO : The Files

REC	2	15 APR 1958	064540
ORIG	033	56	DATE: 24 July 1958
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JUST	22	2010	

FROM :

SUBJECT: (Trip Report -

1. On 21 July 1958, the undersigned visited the [] to monitor progress on the modified [] receiver to be used in conjunction with Project []. Participating in the discussions were:

2. The modified [] is being procured by the sponsoring division through a fixed price contract. The purchase order (including a list of the desired receiver modifications) has been received by [] and, for all practical purposes, the receiver design can be considered as finalized. [] feels that no technical problems remain to be solved, and that the modified receiver can be delivered within the allotted time.

3. [] questioned the advisability of using a dual-phosphor CRT. [] plans to use a single CRT, with two layers of phosphor, for both the visual and the photographic FTI (frequency-time indicator) displays. One layer will be a high-persistency (approximately 30 sec.) phosphor which will, when a vertical raster is used with the frequency sweep, create a visible FTI display with a history of approximately 30 seconds. For photographic purposes, the vertical raster will be eliminated, the light from the high-persistency phosphor will be filtered out, and the frequency-intensity pattern indicated by the high-resolution phosphor layer will be recorded on moving film to create an FTI display with the moving film serving as the time base. [] feels that this system will not work satisfactorily. He cited discussions with personnel of the [] as the basis for his beliefs and suggested the following alternate plans:

Plan 1. Use one CRT with a single phosphor of very high persistency (2-3 min.). Vertical raster will be used at all times to create a visual FTI display. For photographic recording, a single frame picture will be taken of the FTI display each time the vertical raster indexes from the bottom to the top of the CRT.

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Plan 2. Use two separate CRT's, one with high persistency phosphor for visual FTI display and one with high resolution phosphor for photographic recording on continuously moving film.

[] further requested that [] consider the possible advantages of using the 5FP25 CRT which [] is using in their [] receiver. [] agreed to investigate [] proposals.

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4. [] seemed slightly confused by the unexpected opposition to their technical approach which had, in fact, already been approved by the sponsoring division. The undersigned pointed out to them that the suggestions of [] should in no way be considered as an indication that the sponsoring division had withdrawn its approval of the planned technical approach, and they should consider a change in technical approach only if specifically directed to do so by the technical representative of the sponsoring division.

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5. The question of a variable vector scan control was also brought up by [] who feels that this feature should be included in the finished receiver. [] agreed that such a feature would, indeed, be desirable, but emphasized that the inclusion of the variable vector scan control would entail an R+D effort neither provided for in the fixed price purchase order, nor considered in the anticipated delivery schedule. At the present time, it does not appear that the benefits of variable vector scan warrant the added R+D effort or the contract time extension.

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6. Following these discussions, [] briefed the Government representatives on some of the work being done at [] on masers and parametric amplifiers. Among their more impressive accomplishments is an 8-band parametric amplifier (still under development) with which they have achieved noise figures in the order of 2 db under non-cryogenic conditions. [] further indicated that the company is eager to take on additional work along these lines.

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